General

Title

Use of high-risk medications in the elderly: percentage of Medicare members 66 years of age and older who received at least two different high-risk medications.

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of Medicare members 66 years of age and older who received at least two different high-risk medications.

See the related National Quality Measures Clearinghouse (NQMC) summary of the National Committee for Quality Assurance (NCQA) measure Use of high-risk medications in the elderly: percentage of Medicare members 66 years of age and older who received at least one high-risk medication.

Rationale

This patient safety measure addresses medication management to prevent the harms associated with certain medications in the elderly. It identifies high-risk medications that should be avoided in the elderly population. Certain medications are associated with increased risk of harms from drug side-effects and drug toxicity, and pose a concern for patient safety (McLeod et al., 1997; Murray, 2000; Roose & Spatz, 1999). There is clinical consensus that these drugs pose increased risks in the elderly (Graal & Wolffenbuttel, 1999; Zhan et al., 2001; Fick et al., 2003).

The National Committee for Quality Assurance (NCQA) used the 2012 American Geriatrics Society (AGS) Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults as a clinical foundation for this measure. The development of the 2012 Updated Beers Criteria was based on an extensive literature review and discussion by a panel of experts in geriatric care and pharmacotherapy. The Updated Beers Criteria is intended as a tool that both identifies and describes drugs and drug-disease interactions that should generally be avoided in people 65 years of age and older, because these drugs pose unnecessary risk for older adults (AGS 2012 Beers Criteria Update Expert Panel, 2012).

Appropriate use of prescription drugs in the elderly, including proper drug selection, has been identified as an important quality of care issue, and explicit criteria defining inappropriate drug use as an important tool in the evaluation of prescribing to populations (Graal & Wolffenbuttel, 1999; Zhan et al., 2001). Studies link prescription drug use by the elderly with adverse drug events that contribute to hospitalization, increased length of hospital stay, increased duration of illness, nursing home placement and falls and fractures that are further associated with physical, functional and social decline in the elderly (Fu, Liu, & Christensen, 2004; Bates, 1999).

Reducing prescriptions of high-risk drugs in the elderly also represents an opportunity to reduce the costs associated with the harm from medications (e.g., hospitalizations from drug toxicity) and to encourage clinicians to consider safer, alternative medications. Reducing unnecessary prescribing will also help to reduce cost, given that the elderly population represents one-third of all prescription drug expenditures in the United States (U.S.), but comprises only 13 percent of the population (Families USA, 2000).

Evidence for Rationale

American Geriatrics Society 2012 Beers Criteria Update Expert Panel. American Geriatrics Society updated Beers Criteria for potentially inappropriate medication use in older adults. J Am Geriatr Soc. 2012 Apr;60(4):616-31. [35 references] PubMed

Bates DW. Frequency, consequences and prevention of adverse drug events. J Qual Clin Pract. 1999 Mar;19(1):13-7. PubMed

Families USA. Cost overdose: growth in drug spending for the elderly, 1992-2010. Washington (DC): Families USA; 2000. 2 p.

Fick DM, Cooper JW, Wade WE, Waller JL, Maclean JR, Beers MH. Updating the Beers criteria for potentially inappropriate medication use in older adults: results of a US consensus panel of experts. Arch Intern Med. 2003 Dec 8-22;163(22):2716-24. PubMed

Fu AZ, Liu GG, Christensen DB. Inappropriate medication use and health outcomes in the elderly. J Am Geriatr Soc. 2004 Nov;52(11):1934-9. PubMed

Graal MB, Wolffenbuttel BH. The use of sulphonylureas in the elderly. Drugs Aging. 1999 Dec;15(6):471-81. [74 references] PubMed

McLeod PJ, Huang AR, Tamblyn RM, Gayton DC. Defining inappropriate practices in prescribing for elderly people: a national consensus panel. CMAJ. 1997 Feb 1;156(3):385-91. PubMed

Murray JB. Cardiac disorders and antidepressant medications. J Psychol. 2000 Mar;134(2):162-8. [42 references] PubMed

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Roose SP, Spatz E. Treatment of depression in patients with heart disease. J Clin Psychiatry. 1999;60 Suppl 2:34-7. [37 references] PubMed

Zhan C, Sangl J, Bierman AS, Miller MR, Friedman B, Wickizer SW, Meyer GS. Potentially inappropriate medication use in the community-dwelling elderly: findings from the 1996 Medical Expenditure Panel Survey. JAMA. 2001 Dec 12;286(22):2823-9. PubMed

Primary Health Components

Medication safety; high-risk medications; elderly

Denominator Description

Medicare members age 66 years and older as of December 31 of the measurement year (see the "Denominator Inclusions/Exclusions" field)

Numerator Description

Members who received at least two different high-risk medications during the measurement year (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

- Prescription drug use by the elderly can often result in adverse drug events that contribute to hospitalization, increased duration of illness, nursing home placement, falls and fractures. Despite widely accepted medical consensus that certain drugs increase the risk of harm to the elderly (Fick et al., 2003), these drugs continue to be prescribed. Because older adults are more likely to take multiple medications for multiple conditions, they are also at higher risk of potentially harmful drug-disease interactions.
- Health care costs linked to prescriptions of potentially inappropriate medications in the elderly average $7.2 billion a year (Fu et al., 2007).
- Almost 40 percent of adults 65 and older report being on five or more medications (National Center for Health Statistics [NCHS], 2014).

- Approximately 15 percent of adverse drug events occur in the elderly; 28 percent of hospitalizations of older adults are due to inappropriate use of medications (Pretorius et al., 2013; American Geriatrics Society [AGS], 2011).
- Avoiding the use of high-risk drugs is an important, simple and effective strategy in reducing medication-related problems and adverse drug events in older adults (AGS, 2012).

Evidence for Additional Information Supporting Need for the Measure

American Geriatrics Society (AGS). American Geriatrics Society updated Beers criteria for potentially inappropriate medication use in older adults. New York (NY): American Geriatrics Society (AGS); 2012.

American Geriatrics Society (AGS). Medication management for older adults. New York (NY): American Geriatrics Society (AGS); 2011.

Fick DM, Cooper JW, Wade WE, Waller JL, Maclean JR, Beers MH. Updating the Beers criteria for potentially inappropriate medication use in older adults: results of a US consensus panel of experts. Arch Intern Med. 2003 Dec 8-22;163(22):2716-24. PubMed

Fu AZ, Jiang JZ, Reeves JH, Fincham JE, Liu GG, Perri M 3rd. Potentially inappropriate medication use and healthcare expenditures in the US community-dwelling elderly. Med Care. 2007 May;45(5):472-6. PubMed

National Center for Health Statistics. Health, United States, 2013: with special feature on prescription drugs. Hyattsville (MD): Centers for Disease Control and Prevention, National Center for Health Statistics; 2014 May. 497 p.

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. 205 p.

Pretorius RW, Gataric G, Swedlund SK, Miller JR. Reducing the risk of adverse drug events in older adults. Am Fam Physician. 2013 Mar 1;87(5):331-6. PubMed

Extent of Measure Testing

All HEDIS measures undergo systematic assessment of face validity with review by measurement advisory panels, expert panels, a formal public comment process and approval by the National Committee for Quality Assurance's (NCQA's) Committee on Performance Measurement and Board of Directors. Where applicable, measures also are assessed for construct validity using the Pearson correlation test. All measures undergo formal reliability testing of the performance measure score using beta-binomial statistical analysis.

Evidence for Extent of Measure Testing

Rehm B. (Assistant Vice President, Performance Measurement, National Committee for Quality Assurance, Washington, DC). Personal communication. 2015 Mar 16. 1 p.

State of Use of the Measure

State of Use

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Managed Care Plans

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 66 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Health and Well-being of Communities
Making Care Safer

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Safety

Data Collection for the Measure

Case Finding Period

The measurement year

Denominator Sampling Frame

Enrollees or beneficiaries

Denominator (Index) Event or Characteristic

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
Medicare members age 66 years and older as of December 31 of the measurement year

Note:

Members must have been continuously enrolled during the measurement year.
Allowable Gap: No more than one gap in enrollment of up to 45 days during the measurement year.

Exclusions
Unspecified

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
Members who received at least two different high-risk medications during the measurement year

A high-risk medication is defined as any of the following:

- A dispensed prescription for a medication in Table DAE-A (refer to Table DAE-A in the original measure documentation for a list of high-risk medications)
- Dispensed prescriptions that meet days supply criteria within a medication class in Table DAE-B (refer to Table DAE-B in the original measure documentation for a list of high-risk medications with days supply criteria)
- A dispensed prescription that meets average daily dose criteria in Table DAE-C (refer to Table DAE-C in the original measure documentation for a list of high-risk medications with average daily dose criteria)

Note:

Calculating Days Supply: Calculate the days supply during the measurement year for medication classes in Table DAE-B. The intent is to sum the days supply for all medications (listed in the Prescription column) within a medication class (listed in the Description column). Sum the days supply and subtract any days supply that extends beyond December 31 of the measurement year. If the total days supply for all medications in a medication class is greater than 90 days, count as one high-risk medication. Assess each medication class separately. Medications dispensed in the year prior to the measurement year with a days supply that extends into the measurement year count toward the total days supply.
Calculating Average Daily Dose: Calculate the average daily dose for medications in Table DAE-C. Multiply the quantity of pills dispensed by the dose of each pill and divide by days supply. To calculate daily dose for elixirs and concentrates, multiply the volume dispensed by dose and divide by days supply. Two prescriptions for the same medication that meet the average daily dose criteria count as one high-risk medication. Two prescriptions for different medications that meet the average daily dose criteria count as two high-risk medications. Do not round when calculating average daily dose.

Exclusions
Unspecified

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Pharmacy data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a lower score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Use of high-risk medications in the elderly (DAE): at least two different high-risk medications.

Measure Collection Name

HEDIS 2016: Health Plan Collection

Measure Set Name

Effectiveness of Care

Measure Subset Name

Overuse/Appropriateness

Submitter

National Committee for Quality Assurance - Health Care Accreditation Organization

Developer

National Committee for Quality Assurance - Health Care Accreditation Organization

Funding Source(s)

Unspecified

Composition of the Group that Developed the Measure

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

Financial Disclosures/Other Potential Conflicts of Interest

In order to fulfill National Committee for Quality Assurance's (NCQA's) mission and vision of improving health care quality through measurement, transparency and accountability, all participants in NCQA's expert panels are required to disclose potential conflicts of interest prior to their participation. The goal of this Conflict Policy is to ensure that decisions which impact development of NCQA's products and services are made as objectively as possible, without improper bias or influence.

Endorser

National Quality Forum - None

NQF Number

not defined yet

Date of Endorsement

2014 Jan 6

Measure Initiative(s)

Physician Quality Reporting System

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Oct

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates previous versions:

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.
National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

Measure Availability

Source available for purchase from the National Committee for Quality Measurement (NCQA) Web site .

For more information, contact NCQA at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org .

Companion Documents

The following are available:

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct. 205 p.
National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical update. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct 1. 12 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org .

NQMC Status

This NQMC summary was completed by ECRI on June 6, 2006. The information was not verified by the measure developer.

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This NQMC summary was retrofitted into the new template on July 1, 2011.

This NQMC summary was updated by ECRI Institute on September 14, 2012, April 30, 2013, January 23, 2014, February 11, 2015, and again on February 9, 2016.

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Production

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

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